Remarks

The Applicants have amended Claim 1 in accordance with the Examiner's helpful suggestion. The Applicants respectfully submit that it is now in proper form for allowance.

The Applicants note with appreciation the withdrawal of the 35 U.S.C. §102 rejections based on Sato, Uematsu and Kato, as well as the 35 U.S.C. §103 rejections based on Sato and Uematsu.

The sole rejection remaining is the rejection of Claims 1, 2, 5 and 6 under 35 U.S.C. §103 over Kato. The Applicants respectfully submit that those claims are fully allowable over Kato for the reasons set forth below in detail.

A highly advantageous composition of fuel tanks used in a particular environment (a gasoline containing environment) was found by the Applicants herein. They discovered that the content of about 0.5% or more of Mo is advantageous from the viewpoint of corrosion resistance in an environment where a fuel tank is to be used. This distinctiveness from the point of view concerning corrosion resistance and proper amounts of Mo and V are shown in Fig. 1 of the Applicants' drawings.

The Applicants note with appreciation the Examiner's helpful and detailed comments concerning apparent similarities between the subject matter of the solicited claims and Kato. In that regard, the Applicants appreciate the Examiner's comments concerning Examples 7 and 17 in Table 1 of Kato. Upon further examination, the Applicants respectfully submit that Examples 7 and 17 do not meet the compositional limitations recited in Claim 1. For example, Claim 1 affirmatively cites the presence of Mo in an amount of about 0.5% to about 3.0%. Both of Examples 7 and 17 contain no Mo. Thus, not only is the amount of Mo outside of the claimed range, but there is, in fact, no Mo at all. Also, Example 17 recites the presence of 8.2% Cr. That amount of Cr is well outside of the

claimed range of about 11% to about 20%. As a consequence, the Applicants respectfully submit that Examples 7 and 17 do not meet the compositional limitations as suggested in the Official Action and also do not render the solicited claims obvious. Withdrawal of the rejection based on Kato is respectfully requested.

As noted above, the Applicants discovered that the presence of Mo is important to this invention. Mo (and V) help to increase the corrosion resistance against gasoline. However, the Applicants also realized that Mo degrades the processability of the steel. By reference to Kato, such as on page 6 at paragraph [0050], the Applicants confirmed certain aspects previously known in the art. For example, Kato indicates that addition of Mo (as well as Cu and Ni) may be effective to improve corrosion resistance. However, Kato cautions those of ordinary skill in the art to avoid addition of large amounts of Mo because it lowers the toughness of the steel as well as the ductility of the steel. In other words, Kato teaches that the presence of Mo reduces processability.

Unexpectedly, the Applicants discovered that Mo can, in fact, be used in a way that increases the corrosion resistance of the steel, but also allows for the desired processability. This is achieved by employing Mo in conjunction with particular methodology to produce the steel. This is specifically achieved by controlling the annealing conditions of the hot-rolled steel sheets in a way that minimizes the ridging height, provides superior press formability and other important characteristics associated with processing. As a result of this discovery, not taught or suggested by Kato, the Applicants produce steel sheets having about 0.5% to about 3.0% Mo. Such steels have the desired corrosion resistance and the desired processability.

This is sharply contrasted to Kato which, as noted above, cautions those of ordinary skill in the art to avoid utilization of Mo in other than a minor way. This is demonstrated in Kato by the

Examples, wherein one Example includes Mo and one Comparative Example includes Mo. The Examples are for Steel Nos. 9 and 10, respectively. (It should be noted that both of those Examples include amounts of V, namely 0.039 and 0.012%, that are outside of the Applicants' claimed range of about 0.05% to about 0.3%. Thus, both of Steel Nos. 9 and 10 are not applicable to the invention as claimed herein.) In any event, Kato does not provide teachings or suggestions to one of ordinary skill in the art to provide the claimed amount of Mo and the claimed amount of V in a steel in the claimed amounts that would achieve the Applicants' claimed result.

By way of summary, Examples 7 and 17 do not include any Mo, much less the claimed amount of about 0.5 to about 3.0% Mo. Also, the only Example that does include Mo does not include the claimed amount of V. Thus, Kato fails to provide teachings or suggestions to one of ordinary skill in the art to modify the steels of Kato in a way that would result in the specifically claimed ferritic stainless steel sheet of this invention. At best, Kato provides for the notorious "obvious to try" scenario that has long been forbidden by the Federal Circuit.

This invention also specifically involves the relationships of the gross cold-rolling reduction rate that has an influence on the quality of cold-rolled annealed sheets. As shown in Fig. 2 of the Applicants' drawings, the Applicants found a range wherein the product quality (r value) largely differs depending on the relationships between a linear pressure at the final pass in the finish hot rolling and the gross cold-rolling reduction rate. That is to say, the gross cold-rolling reduction rate of the invention is 82% or more. In sharp contrast, according to Kato, the influence of the cold-rolling reduction rate is not known with an example, which was cold rolled under 80% uniformly (a hot rolled steel strip of 4 mm in thickness was cold rolled to a thickness of 0.8 mm, as set out in paragraph [0059] of an inventive example).

This invention clearly indicates that the gross cold-rolling reduction rate, in addition to hot rolling conditions and hot rolled sheet annealing temperature, is an important factor and that r-values substantially differ by the differences in cold-rolling reduction rates, even if the rolling material of the same composition and the same hot rolling condition is used. In other words, a steel sheet produced by the method for manufacturing the steel according to this invention exhibits properties that are dissimilar to those of a steel sheet produced by the manufacturing method of Kato. Withdrawal of the 35 U.S.C. §103 rejection over Kato is respectfully requested.

The Applicants have further amended Claim 1 to recite that the percentage of Ni present is between about 0.2 and about 2.0%. The upper end of the Ni quantity was contained in original Claim 1 and the lower amount of about 0.2% may be found in the Applicants' Specification in paragraph [0031]. The Applicants note that none of the Examples of Kato contain Ni in any quantity at all. Therefore, the Applicants respectfully submit that Claim 1 further distinguishes over Kato. Withdrawal of the 35 U.S.C. §103 rejection over Kato is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,

T. Daniel Christenbury
Reg. No. 31,750

TDC:lh
(215) 656-3381